

PENDING CLAIMS

1. (Cancelled)

2. (Previously Presented) A method of communicating between a transmitter and a receiver in a wireless multi-carrier system comprising the steps of:

setting in the transmitter an initial number of carriers and an initial symbol rate at which symbols are transmitted from the transmitter to the receiver;

transmitting a first group of symbols using the initial number of carriers and the initial symbol rate;

changing in the transmitter the rate at which symbols are transmitted from the transmitter to the receiver from the initial symbol rate to a subsequent symbol rate that is different than the initial symbol rate; and

transmitting a second group of symbols using the initial number of carriers and the subsequent symbol rate,

wherein the step of changing the rate at which symbols are transmitted includes the step of changing a frequency output by a frequency synthesizer that is used to clock a serial to parallel converter, a divide by N counter coupled to an iFFT, and a parallel to serial converter.

3. (Original) The method according to claim 2 wherein the step of changing a frequency output by a frequency synthesizer uses a phase locked loop.

4. (Previously Presented) A method of communicating between a transmitter and a receiver in a wireless multi-carrier system comprising the steps of:

setting in the transmitter an initial number of carriers

and an initial symbol rate at which symbols are transmitted from the transmitter to the receiver;

transmitting a first group of symbols using the initial number of carriers and the initial symbol rate;

changing in the transmitter the rate at which symbols are transmitted from the transmitter to the receiver from the initial symbol rate to a subsequent symbol rate that is different than the initial symbol rate; and

transmitting a second group of symbols using the initial number of carriers and the subsequent symbol rate,

wherein the step of changing the rate at which symbols are transmitted includes the step of changing a frequency that is used to clock a serial to parallel converter, a divide by N counter coupled to an iFFT, and a parallel to serial converter by changing a multiplexer output, thereby selecting a different circuit capable of generating the subsequent symbol rate rather than a previous circuit capable of generating the initial symbol rate.

5. (Original) The method according to claim 4 wherein the step of changing the multiplexer output selects between the different circuit and the previous circuit such that the different circuit and the previous circuit respectively provide a subsequent symbol clock rate and an initial symbol clock rate using at least one of a multiplier and divider.

6-7. (Cancelled)

8. (Previously Presented) A method of communicating between a transmitter and a receiver in a wireless multi-carrier system comprising the steps of:

setting in the transmitter an initial number of carriers

and an initial symbol rate at which symbols are transmitted from the transmitter to the receiver;

transmitting a first group of symbols using the initial number of carriers and the initial symbol rate;

changing in the transmitter the number of carriers in active use from the initial number of carriers to a subsequent number of carriers that is different than the initial number of carriers; and

transmitting a second group of symbols using the subsequent number of carriers,

wherein the step of changing in the transmitter the number of carriers in active use includes the step of dynamically informing the transmitter of those carriers that were used in the initial number of carriers and will not be used in the subsequent number of carriers by placing zero magnitude signals on those carriers within the transmitter, wherein each carrier is individually selected to be used/not used.

9. (Previously Presented) A method of communicating between a transmitter and a receiver in a wireless multi-carrier system comprising the steps of:

setting in the transmitter an initial number of carriers and an initial symbol rate at which symbols are transmitted from the transmitter to the receiver;

transmitting a first group of symbols using the initial number of carriers and the initial symbol rate;

changing in the transmitter the number of carriers in active use from the initial number of carriers to a subsequent number of carriers that is different than the initial number of carriers; and

transmitting a second group of symbols using the subsequent number of carriers,

wherein the step of changing in the transmitter the number of carriers in active use includes the step of dynamically informing the transmitter of those carriers that were not used in the initial number of carriers and will be used in the subsequent number of carriers by placing data conveying signals into those carriers that previously had zero magnitude signals within the transmitter, wherein each carrier is individually selected to be used/not used.

10-11. (Cancelled)

12. (Previously Presented) A method of communicating between a transmitter and a receiver in a wireless multi-carrier system comprising the steps of:

setting in the transmitter an initial number of carriers and an initial symbol rate at which symbols are transmitted from the transmitter to the receiver;

transmitting a first group of symbols using the initial number of carriers and the initial symbol rate;

changing in the transmitter the number of carriers in active use from the initial number of carriers to a subsequent number of carriers that is different than the initial number of carriers; and

transmitting a second group of symbols using the subsequent number of carriers,

wherein the step of changing in the transmitter the number of carriers in active use includes the step of changing an iFFT size of an iFFT in the transmitter by a factor that is a power of two, and

wherein the step of changing in the transmitter the number of carriers in active use further includes the step of dynamically informing the transmitter of those carriers that

were used in the initial number of carriers and will not be used in the subsequent number of carriers by placing zero magnitude signals on those carriers within the transmitter, wherein each carrier is individually selected to be used/not used.

13. (Previously Presented) A method of communicating between a transmitter and a receiver in a wireless multi-carrier system comprising the steps of:

setting in the transmitter an initial number of carriers and an initial symbol rate at which symbols are transmitted from the transmitter to the receiver;

transmitting a first group of symbols using the initial number of carriers and the initial symbol rate;

changing in the transmitter the number of carriers in active use from the initial number of carriers to a subsequent number of carriers that is different than the initial number of carriers; and

transmitting a second group of symbols using the subsequent number of carriers,

wherein the step of changing in the transmitter the number of carriers in active use includes the step of changing an iFFT size of an iFFT in the transmitter by a factor that is a power of two, and

wherein the step of changing in the transmitter the number of carriers in active use further includes the step of dynamically informing the transmitter of those carriers that were not used in the initial number of carriers and will be used in the subsequent number of carriers by placing data conveying signals into those carriers that previously had zero magnitude signals within the transmitter, wherein each carrier is individually selected to be used/not used.

14. (Cancelled)

15. (Previously Presented) A method of communicating between a transmitter and a receiver in a wireless multi-carrier system comprising the steps of:

setting in the transmitter an initial number of carriers and an initial symbol rate at which symbols are transmitted from the transmitter to the receiver;

transmitting a first group of symbols using the initial number of carriers and the initial symbol rate;

changing in the transmitter the rate at which symbols are transmitted from the transmitter to the receiver from the initial symbol rate to a subsequent symbol rate that is different than the initial symbol rate;

changing in the transmitter the number of carriers in active use from the initial number of carriers to a subsequent number of carriers that is different than the initial number of carriers; and

transmitting a second group of symbols using the subsequent number of carriers and the subsequent symbol rate,

wherein the step of changing the rate at which symbols are transmitted includes the step of changing a frequency output by a frequency synthesizer that is used to clock a serial to parallel converter, a divide by N counter coupled to an iFFT, and a parallel to serial converter.

16. (Original) The method according to claim 15 wherein the step of changing a frequency output by a frequency synthesizer uses a phase locked loop.

17. (Previously Presented) A method of communicating between a transmitter and a receiver in a wireless multi-carrier

system comprising the steps of:

setting in the transmitter an initial number of carriers and an initial symbol rate at which symbols are transmitted from the transmitter to the receiver;

transmitting a first group of symbols using the initial number of carriers and the initial symbol rate;

changing in the transmitter the rate at which symbols are transmitted from the transmitter to the receiver from the initial symbol rate to a subsequent symbol rate that is different than the initial symbol rate;

changing in the transmitter the number of carriers in active use from the initial number of carriers to a subsequent number of carriers that is different than the initial number of carriers; and

transmitting a second group of symbols using the subsequent number of carriers and the subsequent symbol rate,

wherein the step of changing the rate at which symbols are transmitted includes the step of changing a frequency that is used to clock a serial to parallel converter, a divide by N counter coupled to an iFFT, and a parallel to serial converter by changing a multiplexer output, thereby selecting a different circuit capable of generating the subsequent symbol rate rather than a previous circuit capable of generating the initial symbol rate.

18. (Original) The method according to claim 17 wherein the step of changing the multiplexer output selects between the different circuit and the previous circuit such that the different circuit and the previous circuit respectively provide a subsequent symbol clock rate and an initial symbol clock rate using at least one of a multiplier and divider.

19. (Cancelled)

20. (Previously Presented) A method of communicating between a transmitter and a receiver in a wireless multi-carrier system comprising the steps of:

setting in the transmitter an initial number of carriers and an initial symbol rate at which symbols are transmitted from the transmitter to the receiver;

transmitting a first group of symbols using the initial number of carriers and the initial symbol rate;

changing in the transmitter the rate at which symbols are transmitted from the transmitter to the receiver from the initial symbol rate to a subsequent symbol rate that is different than the initial symbol rate;

changing in the transmitter the number of carriers in active use from the initial number of carriers to a subsequent number of carriers that is different than the initial number of carriers; and

transmitting a second group of symbols using the subsequent number of carriers and the subsequent symbol rate,

wherein the step of changing in the transmitter the number of carriers in active use includes the step of dynamically informing the transmitter of those carriers that were used in the initial number of carriers and will not be used in the subsequent number of carriers by placing zero magnitude signals on those carriers within the transmitter, wherein each carrier is individually selected to be used/not used.

21. (Previously Presented) A method of communicating between a transmitter and a receiver in a wireless multi-carrier system comprising the steps of:

setting in the transmitter an initial number of carriers and an initial symbol rate at which symbols are transmitted from the transmitter to the receiver;

transmitting a first group of symbols using the initial number of carriers and the initial symbol rate;

changing in the transmitter the rate at which symbols are transmitted from the transmitter to the receiver from the initial symbol rate to a subsequent symbol rate that is different than the initial symbol rate;

changing in the transmitter the number of carriers in active use from the initial number of carriers to a subsequent number of carriers that is different than the initial number of carriers; and

transmitting a second group of symbols using the subsequent number of carriers and the subsequent symbol rate,

wherein the step of changing in the transmitter the number of carriers in active use includes the step of dynamically informing the transmitter of those carriers that were not used in the initial number of carriers and will be used in the subsequent number of carriers by placing data conveying signals into those carriers that previously had zero magnitude signals within the transmitter, wherein each carrier is individually selected to be used/not used.

22-23. (Cancelled)

24. (Previously Presented) A method of communicating between a transmitter and a receiver in a wireless multi-carrier system comprising the steps of:

setting in the transmitter an initial number of carriers and an initial symbol rate at which symbols are transmitted from the transmitter to the receiver;

transmitting a first group of symbols using the initial number of carriers and the initial symbol rate;

changing in the transmitter the rate at which symbols are transmitted from the transmitter to the receiver from the initial symbol rate to a subsequent symbol rate that is different than the initial symbol rate;

changing in the transmitter the number of carriers in active use from the initial number of carriers to a subsequent number of carriers that is different than the initial number of carriers; and

transmitting a second group of symbols using the subsequent number of carriers and the subsequent symbol rate,

wherein the step of changing in the transmitter the number of carriers in active use includes the step of changing an iFFT size of an iFFT in the transmitter by a factor that is a power of two, and

wherein the step of changing in the transmitter the number of carriers in active use further includes the step of dynamically informing the transmitter of those carriers that were used in the initial number of carriers and will not be used in the subsequent number of carriers by placing zero magnitude signals on those carriers within the transmitter, wherein each carrier is individually selected to be used/not used.

25. (Previously Presented) A method of communicating between a transmitter and a receiver in a wireless multi-carrier system comprising the steps of:

setting in the transmitter an initial number of carriers and an initial symbol rate at which symbols are transmitted from the transmitter to the receiver;

transmitting a first group of symbols using the initial number of carriers and the initial symbol rate;

changing in the transmitter the rate at which symbols are transmitted from the transmitter to the receiver from the initial symbol rate to a subsequent symbol rate that is different than the initial symbol rate;

changing in the transmitter the number of carriers in active use from the initial number of carriers to a subsequent number of carriers that is different than the initial number of carriers; and

transmitting a second group of symbols using the subsequent number of carriers and the subsequent symbol rate,

wherein the step of changing in the transmitter the number of carriers in active use includes the step of changing an iFFT size of an iFFT in the transmitter by a factor that is a power of two, and

wherein the step of changing in the transmitter the number of carriers in active use further includes the step of dynamically informing the transmitter of those carriers that were not used in the initial number of carriers and will be used in the subsequent number of carriers by placing data conveying signals into those carriers that previously had zero magnitude signals within the transmitter, wherein each carrier is individually selected to be used/not used.

26-79. (Cancelled)

80. (Previously Presented) A method of communicating from a first transceiver in a wireless multi-carrier system comprising the steps of:

transmitting from the first transceiver a group of symbols using a first particular number of carriers and a first particular symbol rate during a first period of time; and

transmitting from the first transceiver another group of

symbols using a second particular number of carriers and a second particular symbol rate during a subsequent period of time,

wherein at least one of the second particular number of carriers and the second particular symbol rate is different than the first particular number of carriers and the first particular symbol rate,

wherein the second particular number of carriers and the second particular symbol rate are identified in a header portion of the group of symbols transmitted at the first particular number of carriers and the first particular symbol rate; and

further including the step configuring the first transceiver to transmit the another group of symbols using the second particular number of carriers and the second particular symbol rate identified in the header portion of the group of symbols transmitted at the first particular number of carriers and the first particular symbol rate.

81. (Original) The method according to claim 80 wherein: both the second particular number of carriers and the second particular symbol rate are different than the first particular number of carriers and the first particular symbol rate.

82. (Original) The method according to claim 81 wherein the second particular number of carriers is greater than the first particular number of carriers and the second particular symbol rate is greater than the first particular symbol rate.

83-92. (Cancelled)

REMARKS

This Amendment is filed in response to the Office Action dated May 31, 2006, which has a shortened statutory period set to expire August 31, 2006.

Allowable Subject Matter

Applicant greatly appreciates the Examiner's indication of allowable subject matter. Specifically, Claims 2-5, 8, 9, 12, 13, 15-18, 20, 21, 24, and 25 are allowed.

Claims 80-82 Are Patentable Over Van Nee And Li

Claim 80 recites in part:

wherein the second particular number of carriers and the second particular symbol rate are identified in a header portion of the group of symbols transmitted at the first particular number of carriers and the first particular symbol rate.

Applicant respectfully submits that van Nee and Li, either individually or in combination, fail to teach the above limitations. The Office Action admits that van Nee fails to teach these limitations. The Office Action cites Li at col. 2, lines 42-51 as teaching these limitations. Applicant respectfully traverses this characterization.

In col. 2, lines 43-46, van Nee teaches that a transmitter inserts into the frame structure of a current frame an indication of the data rate of the next frame. Notably, van Nee fails to teach that a second particular number of carriers is provided in addition to the second particular symbol rate. Because van Nee and Li, individually and in combination, fail to disclose or suggest the recited second particular number of carriers of Claim 80, Applicant requests reconsideration and withdrawal of the rejection of this claim.

Claims 81 and 82 depend from Claim 80 and therefore are patentable for at least the reasons presented for Claim 80. Based on those reasons, Applicant request reconsideration and withdrawal of the rejection of Claims 81 and 82.